

TMIP Connection

The Travel Model Improvement Program Newsletter

STEP funds TMIP, Stakeholder Feedback Sought

Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users' (SAFETEA-LU) Section 5207 established the Surface Transportation Environment and Planning Cooperative Research Program (STEP). The objective of the STEP program is to improve the understanding of the complex relationship between surface transportation, planning and the environment. As a result of stakeholder and partner input, the Federal Highway Administration (FHWA) has decided that STEP will fund research in four broad categories (Environment, Planning, Tools to Support Planning and Environment, and Program Management and Outreach). SAFETEA-LU authorized \$16.875 million per year for FY2006 through FY2009. Due to obligation



limitations and over designation of Title V Research in SAFETEA-LU, approximately \$11.7 million of the authorized \$16.875 million will be available each year.

The four broad STEP categories contain 17 emphasis areas. The Tools to Support Planning and Environment Category supports the Travel Modeling emphasis area. It provides the primary source of funding for TMIP. In FY2007 STEP allocated \$250,000 to TMIP. Consistent with feedback received last year, these funds are being used to

continue support for the TMIP email list, clearinghouse, website, newsletter, training and general outreach efforts.

FHWA provides ongoing opportunities for stakeholders to participate in the STEP program through shaping research priorities, providing funding for collaborative research, shaping specific research activities and evaluating the results of STEP-funded research. If you would like to comment on STEP, recommend travel modeling research to be accomplished with STEP and/or make other recommendations you may do so through www.fhwa.dot.gov/HEP/STEP. Alternatively you may send your comments directly to Fred Ducca, the research emphasis area contact for STEP activities related to travel modeling. He may be contacted at Fred.Ducca@dot.gov. ■

Transportation Programming at the MPO, tips, tricks and hints

By Sam Granato, former city planner, Cedar Rapids, Iowa

In the early 1990s, as a new Metropolitan Planning Organization (MPO) staff planner, I worked with the local agencies to create a programming plan where projects competed for Surface Transportation Program (STP) funding based on tangible (i.e., measurable in dollars and cents) project benefits and costs.

A search of other agency practices for some guidance revealed only "scoring and weighting" schemes, which are inherently arbitrary even if the elements

included are the most relevant ones. The proposed programming scheme needed to be made defensible to potentially skeptical customers (especially those who would forever be denied funding for their projects).

The focus for project benefits was thus placed on travel time, vehicle operating costs and safety. These items plus facility (except pavement) condition are the most tangible and easily defensible criteria to use. (Local skept-

icism about using pavement condition kept this item out of local programming criteria — it was felt it would "reward" poor maintenance practices.)

The local travel demand model was the tool for determining the project impact of two of these items — travel time (via overall vehicle-hours of travel) and vehicle operating cost (via vehicle-miles of travel). That the model had just been improved to incorporate intersection traffic control opera-

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U.S. Department of Transportation
Federal Highway Administration

tions (i.e. “junctions”) was critical, because intersection and traffic control projects as well as “major widening” were in the mix for potential funding. Because of this recent update, the model was an exemplary validation tool for both volume and travel time. This also meant that the analyses were based on Method of Successive Average (MSA) procedures. MSA procedures use feedback to trip distribution after every iteration of assignment, instead of traditional “equilibrium” with all before/after project analysis involving a fixed number and weighting of traffic assignment iterations.

Safety Benefits, patterned after an existing state department of transportation (DOT) safety improvement program, were estimated based on project type previous “before and after” experience with the project type, and crash history at a site.

I left the agency in early 2001, but this programming philosophy remains in place today, and annual TIP reports documenting

the full process used can be found on the web at <http://www.cedar-rapids.org/rpc/>.

Items to Remember

- The safety criteria can keep rural and semi-rural agencies “in the tent” who fear that their projects will never be competitive for funding from a traffic and congestion standpoint. (With higher-speed roadways, their crashes will usually have higher severity.)
- Your audience consists of local officials. Where benefit or cost research findings appear elaborate or complicated, “index” them to what your customers can more quickly grasp. For example, vehicle reimbursement rates per mile allowed by the Internal Revenue Service (IRS) can be used instead of the full research on operating costs. Annualized project costs can be simplified to focus on project design life instead of full “lifecycle” cost schemes. (Travel time benefits would be tied to local wage rates.)
- Give your local agencies time to get accustomed to your programming schemes and place emphasis on the dependability of staff analysis. It is the local officials’ prerogative to include “other considerations” if they want to, which does not necessarily reflect poorly on staff. The good but not perfect correlation between project benefit/cost ranking and its selection for funding improved with time to the point where, in my final years with the MPO agency, the funded projects were all on the “top of the chart.”
- Large MPOs could easily have difficulties implementing such a scheme due to their large size and because many local officials may lack awareness of needs in other portions of the metro area. Division of the metro area into “districts” could help alleviate this problem. ■

For more information contact sam.granato@dot.state.oh.us.

Remembering GORDON W. SCHULTZ, Transportation Planner and Modeler

The following is excerpted from the tribute to the late Gordon W. Schultz compiled by Dick Pratt. To read the full tribute, please visit http://www.trb-forecasting.org/GordonWSchultz_Tribute.pdf

Gordon W. Schultz was a unique individual and an outstanding contributor to the transportation planning and demand modeling profession. (He) was always enthused about advancing the state of the art in a practical manner. As groundbreakers before him had developed and advanced trip generation, distribution and assignment techniques, Gordon was in the forefront of doing the same for mode choice modeling. Gordon’s models worked, and he was deeply interested in their use in practical planning.

It was real-world model applications to enlighten decision making that turned Gordon on. He was not only a world-class travel demand modeler but also a skilled analytical transportation planner. While long-range planning applications were his usual venue, he took special pleasure in applying analytical processes to short-range and operations planning.



Gordon W. Schultz

One of his final efforts was a key role in the original design of the New York region’s award-winning activity-based model set, recognized as the first activity-based model to be used for conformity analysis.

Gordon developed or had a major influence on mode choice models and full travel demand model sets in Atlanta (multiple model generations), Chicago, Columbus, Denver, Hartford, Honolulu, Houston, Minneapolis–St. Paul (multiple generations), New York, Riyadh, Seattle, Shanghai, Tucson, and Washington, D.C. (multiple generations). He developed travel surveys, estimated transit mode of access models, prepared transit operating cost models and conducted transportation demand management (TDM) studies. Data collection designs and travel models developed by Gordon have become state standards.

Gordon left behind a string of friends practically everywhere he worked. He will be sadly missed by the transportation planning profession and many, many individuals whose paths have crossed his. ■



COFFEE in Your MUG: TMIP Adds New Services to Old Favorites

Don't be surprised if you get an invitation to put COFFEE (come over for friendly experience exchange) in your MUG (Model User Group)! COFFEE will be a series of virtual round tables hosted and moderated by leading experts of our community and will be open to practitioners. The subjects will vary based on feedback from you.

The latest rage in technical training is coming. Producing and delivering via the Internet all manner of technical training and information is the plan of the FHWA's TMIP staff. Practitioners can attend these web-based deliveries for little or no cost. A variety of topics will be taught at webinars including:

- travel model development and applications,
- current seminars in advanced travel forecasting topics and
- other training.

TMIP is also beginning to maintain a database of MUGs. That information is available on our web site, and we are seeking input for accuracy. Please use the feedback page to update your MUG information, which is available by clicking Model User Groups at <http://tmip.fhwa.dot.gov/contacts/>. The

Michigan Department of Transportation

Profile by Bradley M. Sharlow, Transportation Planner

Editor's note: In order to benefit the model user community, TMIP has recently begun an ongoing effort to collect information on the vast range of Model User Groups (MUGs) to include in a database. We consider Model User Groups to be technical working groups who meet for the purpose of discussing local and/or regional modeling issues. Making this database widely available will help make it easier for practitioners to find answers and stay connected with peers. In each issue of the TMIP Connection we plan to highlight or profile a new group, in the interest of shared knowledge. Below is the first of a series.

The Michigan Transportation Technical Committee (TTC) was created in 1994. Initial membership included the entire modeling section of Michigan Department of Transportation (MDOT) and any Metropolitan Planning Organization (MPO) technical staff in Michigan interested in travel demand modeling.

Over the years, the committee has modified its goals, expanded its focus area and broadened its membership to include transit and other partnering agencies. The committee remains as the forum for MDOT and MPO technical staff to cooperate and work together to improve the technical aspects of transportation planning and modeling in Michigan.

The TTC goals are to:

1. serve as a forum to identify the need for and to promote cooperation and

improvements to an array of technical activities and products that support the statewide and urban planning process in Michigan and

2. provide an organized forum for the sharing of experience and expertise in those technical areas that relate to all components of statewide and urban transportation modeling.

In April 2003, the Michigan TTC held its first conference in Lansing, Michigan. Technical discussion topics included:

- Regional Economic Models, Inc. (REMI) Model,
- Michigan Geographic Framework Discussion,
- MDOT Traffic Monitoring Program, and
- Freight Modeling Seminar.

From 2004 to early 2006, new federal mandates combined with changing staff drove the transition of focus of TTC meetings to training MPO and MDOT staff members. Session topics included:

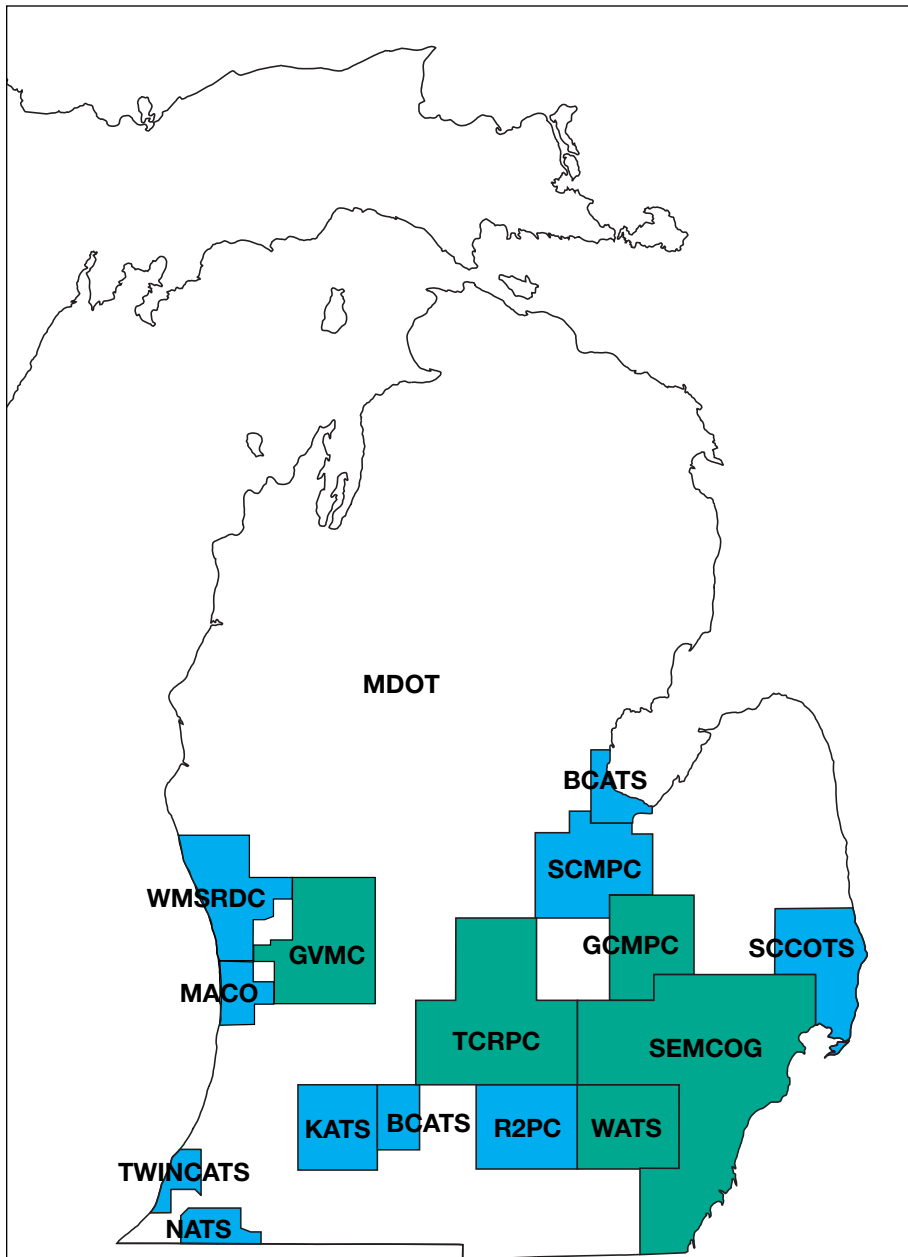
- Air quality: the emergence of the new 8-hour ozone standards. In 2004 and early 2005, meetings were spent discussing the new air quality regulations since Michigan was transitioning from only a few air quality non-attainment areas (SEMCOG-Detroit, Grand Rapids, Muskegon, and Holland) to over 12, many of which encompassed the small MPOs and TMAs.

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MUG database is intended to make it easier for the travel model community to connect and know what is going on in the backyards of other modelers. Free exchange of information is a tool that can go a long way toward improving the state of art and the state of the practice.

In addition to the new rollout, we continue to provide our current services, such as

maintaining a technical clearinghouse and a peer-based email list, and promoting, sponsoring and documenting peer reviews of model practice. TMIP is dedicated to raising the bar on the state of the art and the state of the practice. To access TMIP services visit <http://tmip.fhwa.dot.gov/>. ■



Michigan Transportation Technical Committee (TTC)

AGENCY TYPE	AGENCY	AGENCY	MAJOR CITY
Federal	FHWA	Federal Highway Administration – Michigan	
State	MDOT	Michigan Department of Transportation	
TMA	SEMCOG	Southeast Michigan Council of Governments	Detroit
TMA	GVMC	Grand Valley Metropolitan Council	Grand Rapids
TMA	TCRPC	Tri-County Regional Planning Commission	Lansing
TMA	GCMPC	Genesee County Metropolitan Planning Comm.	Flint
TMA	WATS	Washtenaw Area Transportation Study	Ann Arbor
MPO	R2PC	Region 2 Planning Commission	Jackson
MPO	KATS	Kalamazoo Area Transportation Study	Kalamazoo
MPO	BCATS	Battle Creek Area Transportation Study	Battle Creek
MPO	TWINCATS	Twin Cities Area Transportation Study	Benton Harbor/St. Joseph
MPO	NATS	Niles-Buchanan Area Transportation Study	Niles
MPO	MACC	Macalawa Area Coordination Council	Holland
MPO	WMSRDC	West MI Shoreline Regional Development Comm.	Muskegon
MPO	SCCOTS	St. Clair County Office of Transp. Services	Port Huron
MPO	BCATS	Bay City Area Transportation Study	Bay City
MPO	SCMPC	Saginaw County Metropolitan Planning Comm.	Saginaw

- MPO Boundary
- State
- TMA Boundary

MDOT CONTINUED FROM PAGE 3 ►

- **SAFETEA-LU:** In 2005, there were new requirements for environmental mitigation, congestion management process, visualization and participation plans. The TTC focused on how to address the technical aspects of the new regulations at both the state and regional levels.
- **HPMS:** Increased focus by FHWA towards changes in HPMS traffic counts and other pavement concerns were addressed.

TTC has sponsored a large quantity and wide variety of modeling and technically related information training.

The TTC is now reviewing its goals and procedures in an attempt to re-focus on the sharing of experience and expertise in technical areas that relate to statewide and urban transportation modeling. Substantial advancements in travel demand modeling have occurred nationwide over the last five years, with advancements in time-of-day, tour-based, activity-based, freight, transit and micro-simulation models. In addition, the State of Michigan recently completed a 14,000 Household Travel Survey, known as the Michigan Travel Counts, which will provide the necessary data to advance the statewide and urban travel demand forecast models of Michigan into the future.

Sessions in 2007 will involve discussions on:

- the forecast tools used when developing models;
- continued integration of HPMS and traffic counts into the modeling process;
- the beginning discussions of integrating scenario planning into the modeling process; and
- advancements in other areas, as requested by the committee.

Membership in the TTC is open to MDOT staff, and any MTPA agency and transit agency that wishes to participate. Any organization dealing with technical aspects of transportation planning is welcome at meetings. The current members include technical staff from MDOT, representatives from all of the MPOs in Michigan and representatives from the FHWA–Michigan office. ■

TRANSIMS Deployment Support, Methods Development and Open Source Community Development

FHWA plans several activities to support both the deployment of TRANSIMS and further research into TRANSIMS applications.

Deployment Support

FHWA anticipates issuing a Broad Agency Announcement (BAA) for financial support for TRANSIMS deployment. We plan to use an approach similar to that used in the 2006 BAA and we expect to make multiple awards. The previous BAA may be found at: <http://fs2.fbo.gov/EPSPData/DOT/Synopses/30/DTFH61-06-R-00042/TRANSIMSBAAStatementofObjective.pdf>.

Interested applicants should note that while awards may be made to agencies, universities, consulting firms or other institutions, the support of a planning agency is required. The following are the evaluation criteria from the previous announcement:

1. Ability to successfully complete the project,
2. Strength of planning agency participation,
3. Expansion of TRANSIMS user community, and
4. Demonstration of TRANSIMS capabilities.

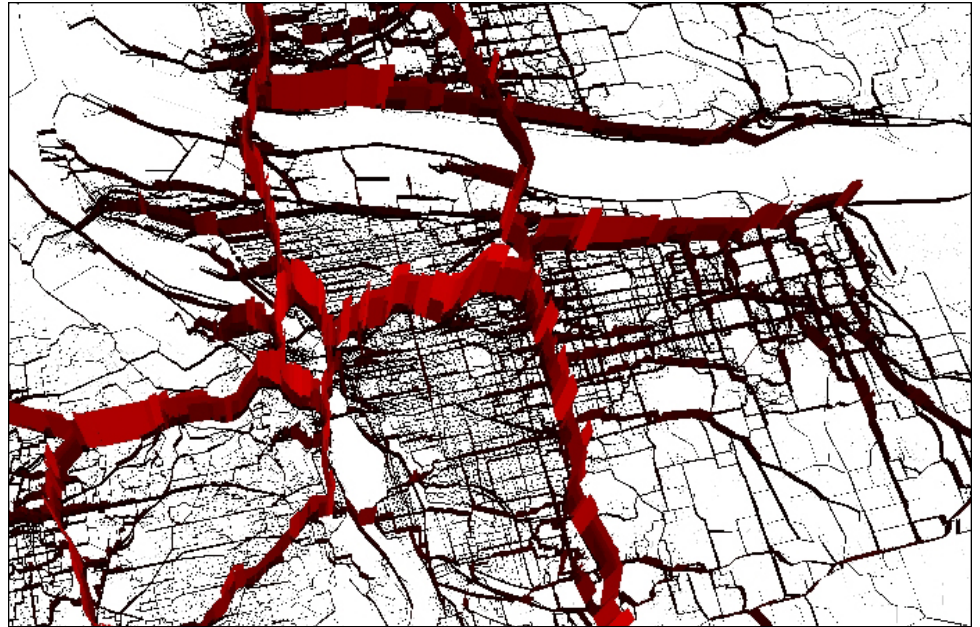
As of this writing we anticipate similar criteria.

Methods Development

FHWA plans to issue a second solicitation to identify how TRANSIMS can be used to address issues identified in Section 5512 of SAFETEA-LU. This is designed to facilitate research into the development of new and innovative methods. Funding levels are estimated to be sufficient to support a graduate student for one year plus oversight from a faculty adviser. While targeted to universities, anyone may apply. Multiple awards are anticipated.

Open Source Community Development

FHWA is working to cultivate, develop and maintain an independent community of TRANSIMS users, researchers and developers. FHWA's current open source community concept goes beyond the simple provision of source code to a more complete vision that includes development of a community infrastructure to inform and



Transportation Analysis and Simulation System (TRANSIMS)

connect TRANSIMS community members. FHWA has engaged Mitretek in support of this effort. Specifically, the open source community will provide four critical new functions:

- *Vehicle for Broad Community Engagement.* TRANSIMS documentation, methods, source code and data sets will be available to anyone that registers within the open source community. Researchers and others have a vehicle to review, comment and contribute to an ever-growing repository of intellectual capital.
- *Unbiased Venue for Information.* The open source community will provide a forum for the dissemination of information clarifying the requirements (e.g., computing platform, data) for TRANSIMS analyses. The community is based on the principle of model neutrality, that is, the web-based resources provide unbiased feedback about the strengths and weaknesses of the current TRANSIMS suite of modeling tools. Newcomers can weigh the option of working with TRANSIMS based on actual community-wide experience.
- *Centerpiece of a Connected Community.* A web-based clearinghouse will provide

a single, centralized repository for all TRANSIMS-related materials. Community members will use the clearinghouse not only to access the most recent materials, but also to post their own contributions, share their experiences and elect leaders from within the community.

- *Coordination Nexus for Key Technical Issues.* Effective collective action requires tools for coordinating software and methods development. One of the key functions of the open source community infrastructure will be to provide version control to core TRANSIMS assets (software, methods, documentation and data sets).

Availability

TRANSIMS is made available under the National Aeronautics and Space Administration (NASA) Open Source Agreement. For more information on TRANSIMS, visit <http://tmip.fhwa.dot.gov/transims> or contact Fred Ducca (Fred.Ducca@dot.gov) or Brian Gardner (Brian.Gardner@dot.gov). ■

UPCOMING EVENTS

Conferences

11th TRB Transportation Planning Applications Conference

May 6 – 10, 2007 – Daytona Beach, FL

Advanced Transport Network Analysis: Modelling and Tools

June 18 – 21, 2007 – Thessaloniki/Chalkidiki, Greece

11th World Conference on Transport Research

June 24 – 28, 2007 – Berkeley, CA

87th TRB Annual Meeting

January 13 – 17, 2008 – Washington, DC

THE TMIP MISSION

TMIP will...

Do What?

Support and empower planning agencies.

How?

Through leadership, innovation and support of planning analysis improvements.

Why?

To provide better information to support transportation and planning decisions.

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TMIP@tamu.edu

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Travel Model Improvement Program

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